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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/046,827 | HORIE, HITOSHI | |
| | Examiner | Art Unit | |
| | ANH H. DO | 2624 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to Amendment on 1/31/2005.
2. The allowed claim(s) is/are 1-13.
3. The drawings filed on 17 January 2002 are accepted by the Examiner.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____



ANH HONG DO
PRIMARY EXAMINER

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Remarks (page 11, first and second paragraphs), filed 1/31/2005, with respect to Abstract of the Disclosure have been fully considered and are persuasive. The objection of the Abstract of the Disclosure has been withdrawn.

Allowable Subject Matter

2. Claims 1-13 are allowed.
3. The following is an examiner's statement of reasons for allowance:
- * The Abstract of the Disclosure has been amended to meet the proper format;
 - * The present invention provides a new method and apparatus to implement realistic and stable coding processing by pursuing ultimate image quality irrespective of the types of images, reducing the coded data through highly efficient compression and exploiting the capacity of the apparatus to the full (specification, page 6, lines 4-9).

In particular, the prior art, either taken singly or in combination, does not teach:

- grouping all pixels included in a predetermined type of tile into pixels belonging to a first layer and pixels belonging to a second layer pixel by pixel; and performing different kinds of signal processing on the pixels belonging to said first layer and pixels belonging to said second layer and then coding the processed signals (see independent claim 1);
- grouping all pixels that belong to the character tile into pixels belonging to a

foreground and pixels belonging to a background pixel by pixel; deciding which of first signal processing suitable for compressing of photograph images or second signal processing suitable for compression of bi-level images should be applied to each of the pixels belonging to the character tile pixel by pixel with reference to the result of grouping all pixels and performing either the first or second signal processing on brightness information of each pixel according to the decision (see independent claim 2);

- grouping all pixels included in the character tile into pixels belonging to a foreground and pixels belonging to a background pixel by pixel and acquiring bitmap information indicating whether each pixel belongs to the foreground or background; deciding whether or not it is possible to apply approximation processing which approximates brightness values of all pixels belonging to the foreground of the character tile or brightness values of all pixels belonging to the background with one typical value (see independent claim 4);
- a layering section that groups each pixel into one of a plurality of predetermined layers based on the brightness level of each pixel included in at least one tile among character image tiles or photographic image tiles and generates bitmap information indicating the layer in which each pixel is included; approximation processing section that decides... when approximation is possible (see independent claim 8);
- a first scaling factor generator... estimation result; and a second scaling factor generator that... quantization processing (see independent claim 12).

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANH H. DO whose telephone number is 571-272-7433. The examiner can normally be reached on 5/4-9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID K. MOORE can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 16, 2005.


ANH HONG DO
PRIMARY EXAMINER